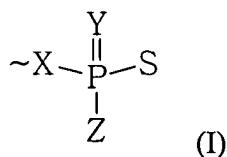


IN THE CLAIMS

Please amend the Claims as follows:

1. (original) A hairpin polynucleotide, having a loop and a stem region, characterised in that a sulfur-based nucleophile is attached to an internal nucleotide in the hairpin through a linker to enable binding to a solid support.
2. (original) The hairpin polynucleotide as claimed in claim 1 wherein the internal nucleotide is present in the loop of the hairpin.
3. (currently amended) The hairpin polynucleotide as claimed in claim 1 ~~or claim 2~~ wherein the sulfur-based nucleophile is a thiol (~SH) or a moiety of the formula (I):



(wherein ~ denotes the bond or linker connecting the sulfur-based nucleophile to the remainder of the polynucleotide; X represents an oxygen atom, a sulfur atom or a group NR, in which R is hydrogen or an optionally substituted C<sub>1-10</sub> alkyl; Y represents an oxygen or a sulfur atom; and Z represents an oxygen atom, a sulfur atom or an optionally substituted C<sub>1-10</sub> alkyl group).

4. (original) The hairpin polynucleotide as claimed in claim 3 wherein X is oxygen, sulfur, or NH.
5. (currently amended) The hairpin polynucleotide as claimed in ~~either claim 3 or claim 4~~ wherein Y is oxygen.

6. (currently amended) The hairpin polynucleotide as claimed in ~~any one of claim~~[[s]] 3 to 5 wherein Z is an oxygen or sulfur atom or a methyl group.

7. (currently amended) The hairpin polynucleotide as claimed in ~~any one of claim~~[[s]] 3 to 6 wherein the sulfur-based nucleophile is a thiophosphate moiety.

8. (currently amended) The hairpin polynucleotide as claimed in ~~any one preceding~~ claim 1 comprising a DNA or an RNA.

9. (original) The hairpin polynucleotide as claimed in claim 8 wherein the thiophosphate moiety is attached to a modified nucleotide.

10. (original) The hairpin polynucleotide as claimed in claim 9 wherein said modified nucleotide is an abasic nucleotide.

11. (currently amended) A hairpin polynucleotide as claimed in ~~any one preceding~~ claim 1 wherein said linker is selected from the group comprising polyethylene glycol of formula  $-(CH_2-CH_2-O)_m$  (wherein m is an integer of from about 1 to about 600), dextrose, peptides, nucleic acids or modified or unmodified chain of formula  $-(CH_2)_n$  (wherein n is an integer of from about 1 to about 1,500).

12. (original) A hairpin polynucleotide as claimed in claim 11 wherein the linker comprises a modified chain of formula  $-(CH_2)_n$  wherein n is less than 100 and the modifications comprise the replacement of one or more than one  $CH_2$  units for functional groups selected from the group comprising ketones, esters, amines, amides, ethers, thioethers, sulfoxides, sulfones, alkene, alkyne, aromatic or heteroaromatic moieties or cyclic aliphatic moieties.

13. (original) The hairpin polynucleotide as claimed in claim 12 wherein the modified chain

comprises one or more amide bonds and one or more carbon-carbon triple bonds.

14. (currently amended) The hairpin polynucleotide as claimed in ~~any one of claim[[s]] 11 to 13~~ wherein the linker comprises a propargylamino unit.

15. (currently amended) The hairpin polynucleotide as claimed in ~~any one preceding claim~~ 1 comprising a first target polynucleotide attached to the 5' end of the hairpin.

16. (original) The hairpin polynucleotide as claimed in claim 15 wherein said first target polynucleotide is genomic DNA.

17. (currently amended) The hairpin polynucleotide as claimed in claim 15 ~~or claim 16~~ wherein said first target polynucleotide is human genomic DNA.

18. (currently amended) The hairpin polynucleotide as claimed in ~~any one preceding claim~~ 1 comprising a primer attached to the 3' end of the hairpin.

19. (currently amended) The hairpin polynucleotide as claimed in ~~any one preceding claim~~ 1 wherein the stem comprises a 5 to 25 base pair double-stranded region.

20. (currently amended) The hairpin polynucleotide as claimed in ~~any one preceding claim~~ 1 wherein the loop comprises 2 or more non-hybridised nucleotides.

21. (currently amended) The hairpin polynucleotide as claimed in ~~any one of claim[[s]] 1 to 19~~ formed from 2 or more separate polynucleotides with complementary regions and a loop which comprises a non-nucleotidic connecting moiety.

22. (original) The hairpin polynucleotide as claimed in claim 21 wherein said linker moiety comprises PEG.

23. (currently amended) A method of making a hairpin polynucleotide, as defined in ~~any one preceding~~ claim 1, comprising attaching the sulfur-based nucleophile to said internal nucleotide before, after or during formation of the hairpin polynucleotide.

24. (currently amended) An array of hairpin polynucleotides as defined in ~~any one of~~ claim[[s]] 1 ~~to 22~~ immobilised on a surface of a solid support.

25. (original) The array as claimed in claim 24 which is a single molecular array.

26. (currently amended) The array as claimed in ~~either~~ claim 24 ~~or claim 25~~ wherein said solid support comprises glass, ceramics, glass silicon or plastics.

27. (currently amended) The array as claimed in ~~any one of~~ claim[[s]] 24 ~~to 26~~ wherein said solid is a glass slide.

28. (currently amended) The array as claimed in ~~any one of~~ claim[[s]] 24 ~~to 27~~ wherein the hairpin polynucleotides are immobilised by covalent bonding.

29. (original) The array as claimed in claim 28 wherein said covalent bonding is formed between the sulfur-based nucleophile and an electrophilic group displayed on the surface of the solid support.

30. (original) The array as claimed in claim 29 wherein said electrophilic group is attached to a silicon atom.

31. (original) The array as claimed in claim 30 wherein said surface is modified so that it in part comprises a silane of formula  $R_nSiX_{(4-n)}$  (where R is an inert moiety that is displayed on the surface of the solid support, n is an integer of from 1 to 4 and X is or comprises a reactive

leaving group).

32. (currently amended) The array as claimed in ~~any one of claim[[s]] 29 to 31~~ wherein the electrophilic group is formed from bromoacetamide functionality.

33. (currently amended) A method of making an array as defined in ~~any one of claim[[s]] 24 to 32~~ comprising the steps of:

- (i) preparing a plurality of said hairpin polynucleotides ~~as defined in any one of claims 1 to 22;~~ and
- (ii) immobilising said hairpin polynucleotides to a surface of a solid support so as to form said array.

34. (original) The method of making an array of hairpin polynucleotides as claimed in claim 33 comprising an additional subsequent step of ligating a second target polynucleotide to each hairpin polynucleotide after they have been immobilised to the surface of the solid support.

35. (original) The method of making an array as claimed in claim 34 wherein said second target polynucleotide is genomic DNA.

36. (currently amended) The method of making an array as claimed in claim 34 ~~or claim 35~~ wherein said second target polynucleotide is human genomic DNA.

37. (currently amended) The method of making an array as claimed in ~~any one of claim[[s]] 33 to 36~~ wherein either or both of said first and second target nucleotides is or are attached to the hairpin polynucleotides by ligating one strand of the target nucleotide in the form of a double-stranded DNA to the hairpin polynucleotide and removing the other strand after the ligation.

38. (currently amended) A device comprising an array as defined in ~~any one of claim[[s]]~~

24 to 32.

39. canceled

40. (currently amended)      ~~The use as claimed in claim 39 in~~ An analytical procedure to determine the sequence of the first target polynucleotide[[]], comprising interrogating the hairpin polynucleotides of the device of claim 38.